

Prior Art

Fig. 1

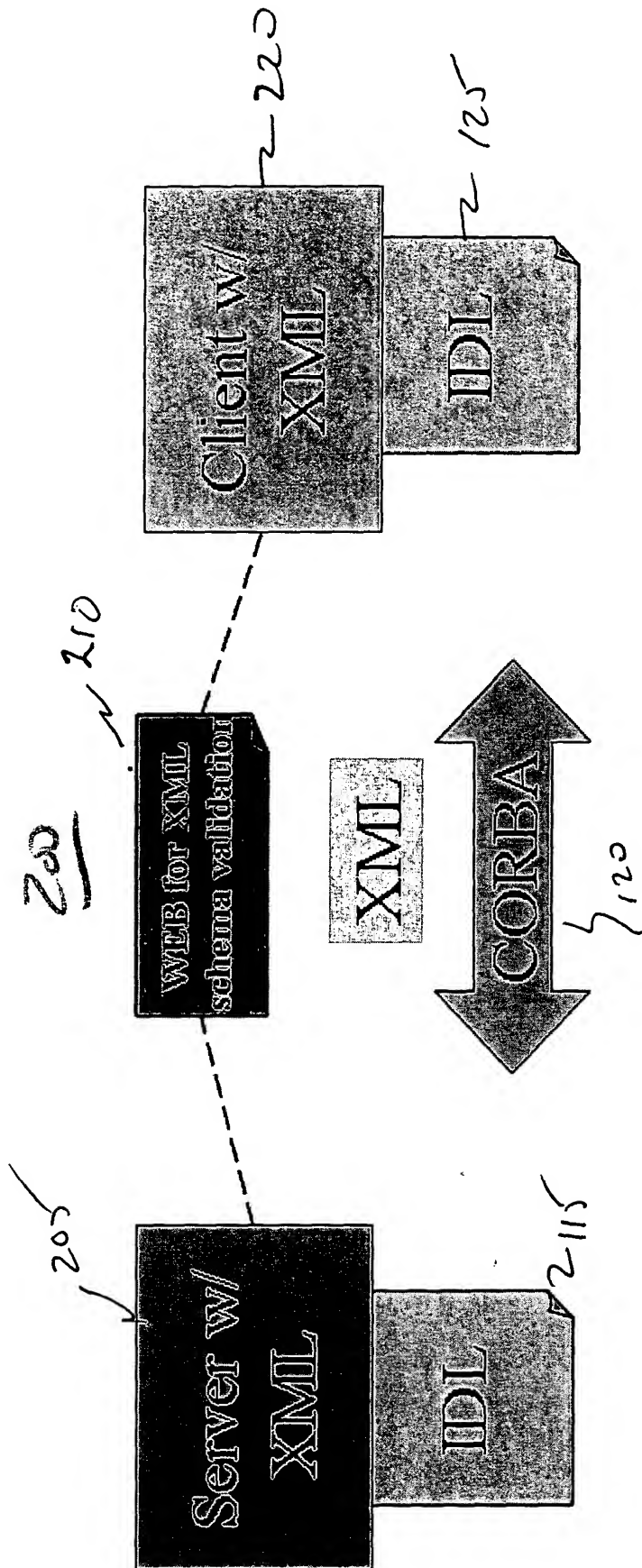
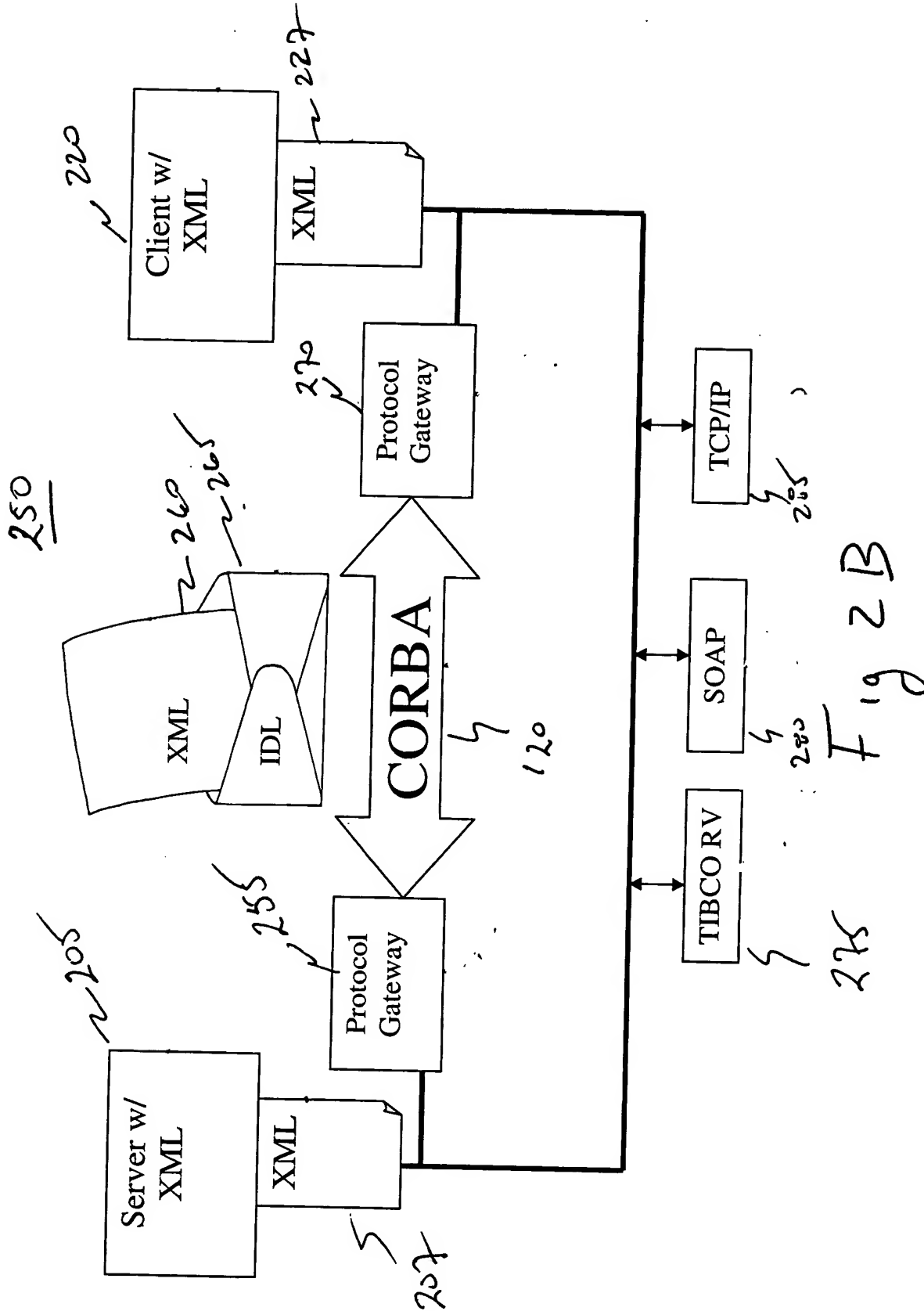


Fig. 2A



```
Module MES_Main{  
  Interface Transaction_Tempalte{  
    String SiView_Transaction(in String XML_Argv);  
  }  
}
```

Fig. 3

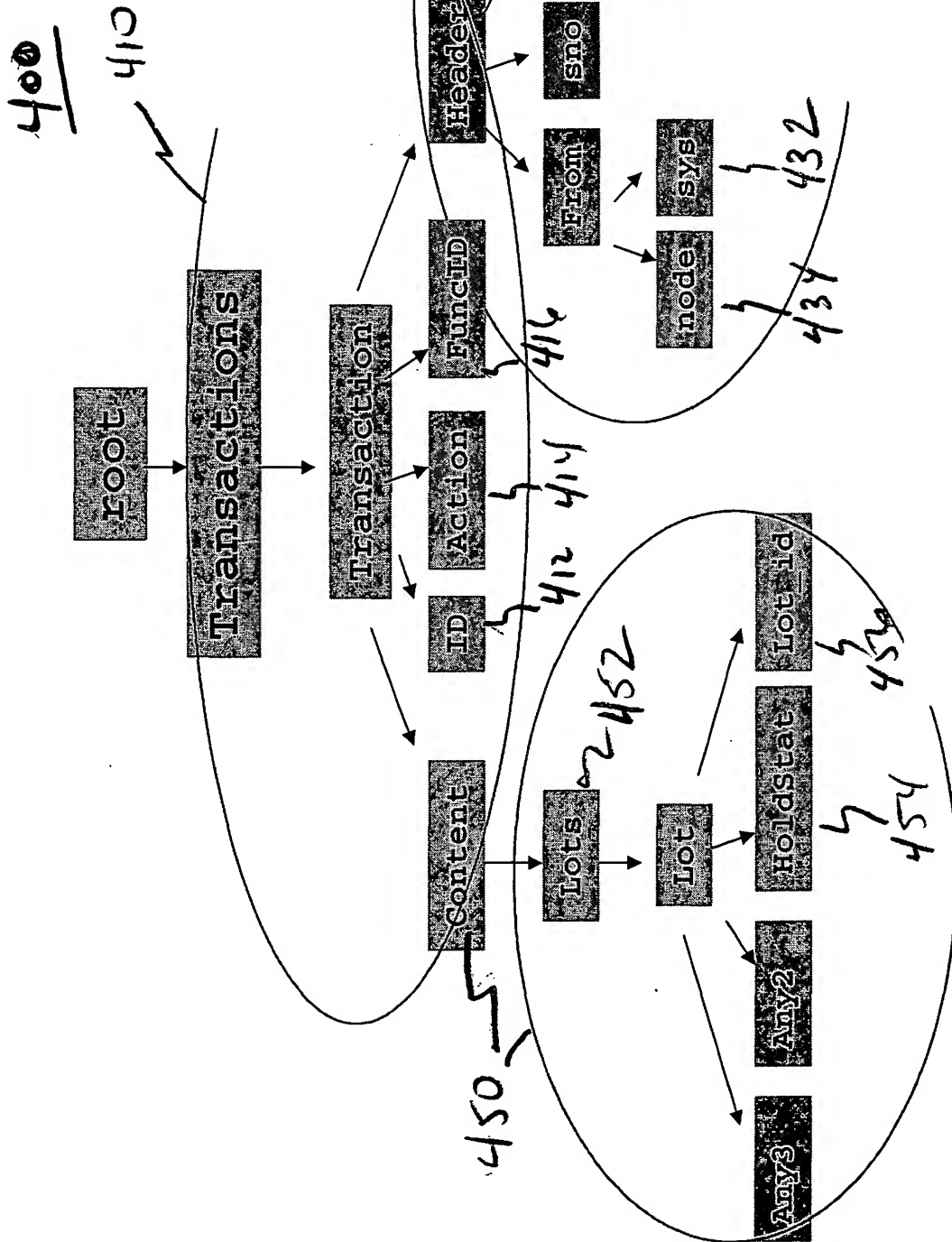


FIGURE 4

```
410  
D:\Data sync\test\testSchema sample.txt  
// define how transaction looks like line 87~101  
// every transaction has 3 attributes for id name, action type = {Inquiry or ResultReply}, function id  
// and 2 elements header & Contents  
// these attributes are filled out by client or server  
  
87  
88 <AttributeType name="ID" required="yes" dt:type="string"/> 510  
89 <AttributeType name="Action" dt:type="string" required="yes"/> 512  
90 <AttributeType name="FuncID" dt:type="string" required="yes"/> 514  
91 <ElementType name="Transaction" content="mixed">  
92 <attribute type="ID"/> 510  
93 <attribute type="Action"/> 512  
94 <attribute type="FuncID"/> 514  
95 <element type="Header"/> 510  
96 <element type="Contents"/> 520  
97 </ElementType> 540  
98  
99 // transactions may include many transaction  
100 <ElementType name="Transactions" content="eltOnly"> 2410  
101 <element type="Transaction"/>  
102 </ElementType>  
103  
104 </Schema>  
105
```

FIGURE 5a

```

46 //define header line 50~80
47 // Message has 2 attributes and message data
48 // 1. return code = rc
49 // 2. message id = msg_id
50 <AttributeType name="rc" required="yes" dt:type="string"/>
51 <AttributeType name="msg_id" required="yes" dt:type="string"/>
52 <ElementType name="Msg" content="eltOnly">
53     <attribute type="rc"/>
54     <attribute type="msg_id"/>
55 </ElementType>
56
57 // 2 attributes here to indicate "from which client or server node = node and system = sys"
58 <AttributeType name="node" required="yes" dt:type="string"/>
59 <AttributeType name="sys" required="yes" dt:type="string"/>
60 <ElementType name="From" content="eltOnly">
61     <attribute type="node"/>
62     <attribute type="sys"/>
63 </ElementType>
64
65 // user has password => pwd as its attribute
66 <AttributeType name="pwd" required="yes" dt:type="string"/>
67 <ElementType name="User" content="eltOnly">
68     <attribute type="pwd"/>
69 </ElementType>
70
71 //define header line 50~80
72 // header has one attribute called serial number => sno
73 // and may have 3 elements User, From & Msg=>Message
74 <AttributeType name="sno" required="yes" dt:type="string"/>
75 <ElementType name="Header" content="mixed">
76     <attribute type="sno"/>
77     <element type="From"/>
78     <element type="Msg"/>
79     <element type="User"/>
80 </ElementType>

```

FIGURE 5b

450

```
15 // define lot features line 10 ~ 38
16 // lot has one attribute named lot id for replying result to client
17 // and many other features in terms of elements
18 // ex: hold state
19
20 <AttributeType name="txt" required="yes" dt:type="string"/> 450
21 <ElementType name="HoldState" content="eltOnly" > 450
22   <attribute type="txt"/> 450
23 </ElementType>
24
25 <ElementType name="any2" content="eltOnly"> 450
26   <attribute type="txt"/> 450
27 </ElementType>
28
29 <ElementType name="any3" content="eltOnly"> 450
30   <attribute type="txt"/> 450
31 </ElementType>
32
33 // lot has one attribute named lot id for replying result to client
34 // and many other features in terms of elements
35 // ex: hold state
36 <AttributeType name="Lot_id" required="yes" dt:type="string"/>
37 <ElementType name="Lot" content="mixed">
38   <attribute type="Lot_id"/> 450
39   <element type="HoldState"/> 450
40   <element type="any2"/> 450
41   <element type="any3"/> 450
42 </ElementType>
43
44 <ElementType name="Lots" content="eltOnly"> 450
45   <element type="Lot"/> 450
46 </ElementType>
```

FIGURE 5C

600

```

1 <?xml version="1.0" ?>
2 <Transactions xmlns="x-schema:http://SomeWebServer/TestSchema.xml">
3   // transactions may include many transaction
4   // this XML has a schema file located at http://SomeWebServer
5   <Transaction id="LotInfoInq" Action="Inquiry" FuncID="0001">
6     // every transaction has 3 attributes for id name, action type = {Inquiry or ResultReply}, function id
7     // and 2 elements header & Contents
8     // these attributes are filled out by client here
9
10    <Header sno="00100">
11      // header has one attribute called serial number
12      // and 2 elements From & User
13      <From node="MyPC" sys="OMI" />
14      // 2 attributes here to indicate "from which client node = node and system = sys"
15      <User pwd="123">ABC</User>
16      // user "ABC" has password "123" as its attribute
17    </Header>
18    <Contents>
19      //contents may have many lots as it content
20      <Lots>
21        // one of its lot
22        <Lot lot_id="ABC100.00"> // lot has one attribute named lot id for client input
23          <any2 txt="1" /> // and other necessary input argument, if any
24          <any3 txt="2" /> // and other necessary input argument, if any
25        </Lot>
26      </Lots>
27    </Contents>
28  </Transaction>
29 </Transactions>
    
```

FIGURE 600

700

```
1 <?xml version="1.0" ?>
2 <Transactions xmlns="x-schema:http://SomeWebServer/TestSchema.xml">
```

```
3 // transactions may include many transaction
```

```
4 // this XML has a schema file located at http://SomeWebServer
```

```
5 <Transaction ID="LotInfoInqReply" Action="ResultReply" FuncID="0005"> ~ 715
```

```
6 // every transaction has 3 attributes for id name, action type = (Inquiry or ResultReply), function id
```

```
7 // and 2 elements header & Contents
```

```
8 // these attributes are filled out by server here
```

```
9 <Header sno="00101">
```

```
10 // header has one attribute called serial number
```

```
11 // and 2 elements From & Msg=Message
```

```
12 <From node="MesServer" sys="MNS" /> ~ 722
```

```
13 // 2 attributes here to indicate "from which server node = node and system = sys" ~ 724
```

```
14 <Msg rc="0" msg_id="0001">Normal End</Msg>
```

```
15 // Message has 2 attributes and message data => here is "Normal End"
```

```
16 // 1. return code = rc
```

```
17 // 2. message id = msg_id
```

```
18 </Header>
```

```
19 <Contents>
```

```
20 // contents may have many lots as its result
```

```
21 <lots>
```

```
22 // one of its lot information result ~ 732
```

```
23 <lot lot_id="ABC100.00">
```

```
24 // lot has one attribute named lot id for replying result to client
```

```
25 // and many other results in terms of elements
```

```
26 <HoldState txt="NotOnHold"/>
```

```
27 // for example: HoldState result with text data = "NotOnHold"
```

```
28 <any2 txt="reply stuff..." /> ~ 734
```

```
29 // other result, if any
```

```
30 <any3 txt="reply stuff..." /> ~ 736
```

```
31 // other result, if any
```

```
32 </lot>
```

```
33 </lots>
```

```
34 </Contents>
```

```
35 </Transaction>
```

Figure 7